

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Young-Seo Park et al.
For : **CHANNEL CONDITION ESTIMATION FOR PILOT
COEFFICIENT SELECTION**

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

UNDER 37 CFR §1.97(b)

Pursuant to 37 CFR §§1.56 and 1.97(b), Applicants bring to the attention of the Examiner the documents listed on the attached Form PTO 1449. This Information Disclosure Statement is being filed with above referenced application.

In accordance with the waiver of the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC § 371 after June 30, 2003, Applicants have not enclosed copies of the U.S. references listed on the attached Form PTO 1449. However, copies of the articles listed are submitted herewith. Applicants respectfully request that the Examiner consider the listed documents and evidence that consideration of relevant portions thereof by making appropriate notations on the attached forms.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that the listed document is material or constitutes "prior art." If it should be determined that the listed document does not constitute "prior art" under United States law, Applicants reserve the right to present to the Office the relevant facts and law regarding the appropriate status of such document.

Applicants : Young-Seo Park et al.
Atty. Docket : CM05628J
Page 2 of 2

Applicants further reserve the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should the documents be applied against the claims of the present application.

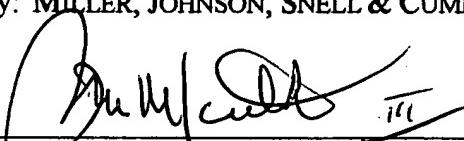
Respectfully submitted,

YOUNG-SEO PARK ET AL.

By: MILLER, JOHNSON, SNELL & CUMMISKEY, P.L.C.

10/31/03

Date


Frank M. Scutch, III, Reg. No. 34,484
250 Monroe Avenue, N.W., Suite 800
P.O. Box 306
Grand Rapids, Michigan 49501-0306
Telephone: 616.831.1777

#783283

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1 of 2

Complete if Known

Application Number	
Filing Date	
First Named Inventor	Young-Seo Park
Art Unit	
Examiner Name	
Attorney Docket Number	CM05628J

U. S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS

Examiner Signature _____ **Date Considered** _____

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. **¹** Applicant's unique citation designation number (optional). **²** See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. **³** Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). **⁴** For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. **⁵** Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. **⁶** Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Comptroller for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO				Complete if Known	
				Application Number	
				Filing Date	
				First Named Inventor	Young-Seo Park
				Art Unit	
				Examiner Name	
Sheet	2	of	2	Attorney Docket Number	CM05628J

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			
		JAMES K. CAVERS, "An Analysis of Pilot Symbol Assisted Modulation for Raleigh Fading Channels," IEEE Transactions on Vehicular Technology, Nov. 1991, pp. 686-693			
		HAIYUN TANG, KAM Y. LAU, & ROBERT W. BRODERSEN, "Interpolation-Based Maximum Likelihood Channel Estimation Using OFDM Pilot Symbols," Berkeley Wireless Research Ctr., undated			
		IVAN PERISA, JOCHEN EGLE & JURGEN LINDNER, "Channel Estimation with Pilot-Symbols over WSSUS Channels," Univ. of Ulm (Germany), Dept. of Information Technology, undated			

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO:

Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.